

SEQUENCE LISTING

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- (ii) TITLE OF INVENTION: HEREGULIN VARIANTS
- 15 (iii) NUMBER OF SEQUENCES: 92
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- 25 (v) COMPUTER READABLE FORM:
(A) MEDIUM TYPE: Floppy disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: PC-DOS/MS-DOS
(D) SOFTWARE: PatentIn Release #1.0, Version #1.30
30
- (vi) CURRENT APPLICATION DATA:
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- 40 (viii) ATTORNEY/AGENT INFORMATION:
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- 50 (2) INFORMATION FOR SEQ ID NO:1:
- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 71 amino acids
(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

5 (ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

10 (A) ORGANISM: Homo sapiens

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

15 Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
1 5 10 15

Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
20 25 30

20 Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
35 40 45

Val Met Ala Ser Phe Tyr Lys His Leu Gly Ile Glu Phe Met Glu Ala
50 55 60

25 Glu Glu Leu Tyr Gln Lys Arg
65 70

(2) INFORMATION FOR SEQ ID NO:2:

30 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 66 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
35 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

40 (vi) ORIGINAL SOURCE:
(A) ORGANISM: Homo sapiens

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
1 5 10 15

50 Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
20 25 30

Leu Cys Lys Cys Gln Pro Gly Phe Thr Gly Ala Arg Cys Thr Glu Asn
35 40 45

5 Lys Arg
65

10 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 63 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: not relevant

(iii) HYPOTHETICAL: NO

(A) ORGANISM: Homo sapiens

25 Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
1 5 10 15

30 Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
20 25 30

Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
35 40 45

35 Val Met Ala Ser Phe Tyr Lys Ala Glu Glu Leu Tyr Gln Lys Arg
50 55 60

40 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 65 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: not relevant

(iii) HYPOTHETICAL: NO

(A) ORGANISM: Homo sapiens

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
 1 5 10 15
 5 Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
 20 25 30
 Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
 35 40 45
 10 Val Met Ala Ser Phe Tyr Ser Thr Ser Thr Pro Phe Leu Ser Leu Pro
 50 55 60
 Glu
 15 65

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 66 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: Rattus rattus

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

35 Ser His Leu Ile Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
 1 5 10 15
 Gly Gly Glu Cys Phe Thr Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
 20 25 30
 40 Leu Cys Lys Cys Gln Pro Gly Phe Thr Gly Ala Arg Cys Thr Glu Asn
 35 40 45
 Val Pro Met Lys Val Gln Thr Gln Glu Lys Ala Glu Glu Leu Tyr Gln
 45 50 55 60
 Lys Arg
 65

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 71 amino acids
 (B) TYPE: amino acid

(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: protein

5

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Rattus rattus

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

15 Ser His Leu Ile Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
1 5 10 15

Gly Gly Glu Cys Phe Thr Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
20 25 30

20 Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
35 40 45

Val Met Ala Ser Phe Tyr Lys His Leu Gly Ile Glu Phe Met Glu Ala
50 55 60

25

Glu Glu Leu Tyr Gln Lys Arg
65 70

(2) INFORMATION FOR SEQ ID NO:7:

30

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 63 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

35

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

40

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Rattus rattus

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

Ser His Leu Ile Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
1 5 10 15

50 Gly Gly Glu Cys Phe Thr Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
20 25 30

Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
35 40 45

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Val Met Ala Ser Phe Tyr Lys Ala Glu Glu Leu Tyr Gln Lys Arg
 50 55 60

5 (2) INFORMATION FOR SEQ ID NO:8:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 64 amino acids
 (B) TYPE: amino acid
 10 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: protein

15 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: Rattus rattus

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

Ser His Leu Ile Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
 1 5 10 15

25 Gly Gly Glu Cys Phe Thr Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
 20 25 30

30 Leu Cys Lys Cys Gln Pro Gly Phe Thr Gly Ala Arg Cys Thr Glu Asn
 35 40 45

Val Pro Met Phe Tyr Ser Thr Ser Thr Pro Phe Leu Ser Leu Pro Glu
 50 55 60

35 (2) INFORMATION FOR SEQ ID NO:9:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 81 amino acids
 40 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: protein

45 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: Rattus rattus

50

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

Ser His Leu Ile Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn

(2) INFORMATION FOR SEQ ID NO:10:

20 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 65 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

25 (ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

30 (vi) ORIGINAL SOURCE:
(A) ORGANISM: Homo sapiens

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

35 Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
1 5 10 15
Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
20 25 30
Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
35 40 45
45 Val Met Ala Ser Phe Tyr Ser Thr Ser Thr Pro Phe Leu Ser Leu Pro
50 55 60
Glu
65

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(B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

5 (ii) MOLECULE TYPE: protein
 (iii) HYPOTHETICAL: NO
 (vi) ORIGINAL SOURCE:
 10 (A) ORGANISM: Homo sapiens

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

15 Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
 1 5 10 15
 Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
 20 20 25 30
 Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
 35 40 45
 Val Met Ala Ser Phe Tyr Ser Thr Ser Thr Pro Phe Leu Ser Leu Pro
 25 50 55 60
 Glu
 65

30 (2) INFORMATION FOR SEQ ID NO:12:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 65 amino acids
 (B) TYPE: amino acid
 35 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: protein
 40 (iii) HYPOTHETICAL: NO
 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Homo sapiens

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
 1 5 10 15
 50 Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
 20 25 30
 Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr

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Val Met Ala Ser Phe Tyr Ser Thr Ser Thr Pro Phe Leu Ser Leu Pro
 50 55 60

5

Glu
 65

(2) INFORMATION FOR SEQ ID NO:13:

10

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 71 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

15

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

20

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Gallus domesticus

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

Ser His Leu Thr Lys Cys Asp Ile Lys Gln Lys Ala Phe Cys Val Asn
 1 5 10 15

30

Gly Gly Glu Cys Tyr Met Val Lys Asp Leu Pro Asn Pro Pro Arg Tyr
 20 25 30

Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
 35 40 45

35

Val Met Ala Ser Phe Tyr Lys His Leu Gly Ile Glu Phe Met Glu Ala
 50 55 60

40

Glu Glu Leu Tyr Gln Lys Arg
 65 70

(2) INFORMATION FOR SEQ ID NO:14:

45

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 49 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

50

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

5 Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
1 5 10 15
10 Gly Gly Glu Cys Phe Met Val Lys Asp Pro Ser Arg Tyr Leu Cys Lys
20 25 30
Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Met Ala
35 40 45
15 Ser

(2) INFORMATION FOR SEQ ID NO:15:

20 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 48 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

25 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

30 (vi) ORIGINAL SOURCE:
(A) ORGANISM: Homo sapiens

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

35 Asn Ser Asp Ser Glu Cys Pro Leu Ser His Asp Gly Tyr Cys Leu His
1 5 10 15
40 Asp Gly Val Cys Met Tyr Ile Glu Ala Leu Asp Lys Tyr Ala Cys Asn
20 25 30
Cys Val Val Gly Tyr Ile Gly Glu Arg Cys Gln Tyr Arg Asp Leu Arg
35 40 45

45

(2) INFORMATION FOR SEQ ID NO:16:

50 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 49 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

5 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

10 Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
1 5 10 15
Gly Gly Glu Cys Phe Met Val Lys Asp Pro Ser Arg Tyr Leu Cys Lys
20 25 30
15 Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Ile Ala
35 40 45
20 Ser

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:

25 (A) LENGTH: 52 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

30 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

35 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

40 Trp Glu Leu Val Pro Cys Gly Trp Asp Arg Glu Gly Phe Cys Val Asn
1 5 10 15
Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
20 25 30
45 Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
35 40 45
Val Ile Ala Ser
50 50

(2) INFORMATION FOR SEQ ID NO:18:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 49 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: not relevant

5

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

10

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

15

Trp Glu Leu Val Pro Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
1 5 10 15

20

Gly Gly Glu Cys Tyr Lys Val Arg Ile Tyr Gly Tyr Leu Met Cys Lys
20 25 30

Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Ile Ala
35 40 45

25 Ser

(2) INFORMATION FOR SEQ ID NO:19:

30

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 49 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: not relevant

35

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

40

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

45

Trp Glu Leu Val Pro Cys Gly Trp Asp Arg Glu Gly Phe Cys Val Asn
1 5 10 15

50

Gly Gly Glu Cys Tyr Lys Val Arg Ile Tyr Gly Tyr Leu Met Cys Lys
20 25 30

Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Ile Ala
35 40 45

Ser

(2) INFORMATION FOR SEQ ID NO:20:

5

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 49 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

10

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

15

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

20

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

Trp Glu Leu Val Pro Cys Gly Trp Asp Arg Glu Gly Phe Cys Val Asn
 1 5 10 15

25

Gly Gly Glu Cys Tyr Lys Val Arg Ile Tyr Arg Tyr Arg Met Cys Lys
 20 25 30

Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Ile Ala
 35 40 45

30

Ser

(2) INFORMATION FOR SEQ ID NO:21:

35

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 49 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

40

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

45

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

50

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
 1 5 10 15

Gly Gly Glu Cys Phe Met Val Lys Asp Tyr Gly Tyr Leu Met Cys Lys
 20 25 30

5 Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Ile Ala
 35 40 45

Ser

10 (2) INFORMATION FOR SEQ ID NO:22:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 52 amino acids
 (B) TYPE: amino acid
 15 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

20 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

Ser His Leu Val Lys Cys Gly Glu Glu Arg Glu Gly Phe Cys Val Asn
 1 5 10 15

30 Gly Gly Glu Cys Tyr Arg Val Lys Thr Leu Ser Asn Pro Ser Arg Tyr
 20 25 30

35 Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
 35 40 45

Val Met Ala Ser
 50

40 (2) INFORMATION FOR SEQ ID NO:23:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 49 amino acids
 (B) TYPE: amino acid
 45 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

50 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

5 Ser His Leu Val Lys Cys Gly Glu Glu Arg Glu Gly Phe Cys Val Asn
 1 5 10 15
 Gly Gly Glu Cys Phe Met Val Lys Asp Tyr Gly Tyr Leu Met Cys Lys
 20 25 30
 10 Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Met Ala
 35 40 45
 Ser

15

(2) INFORMATION FOR SEQ ID NO:24:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 49 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant
 (ii) MOLECULE TYPE: peptide
 (iii) HYPOTHETICAL: NO
 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)

30

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

35 Ser His Leu Val Lys Cys Gly Glu Glu Arg Glu Gly Phe Cys Val Asn
 1 5 10 15
 Gly Gly Glu Cys Tyr Arg Val Lys Thr Tyr Gly Tyr Leu Met Cys Lys
 20 25 30
 40 Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Met Ala
 35 40 45
 Ser

45

(2) INFORMATION FOR SEQ ID NO:25:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 52 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant
 (ii) MOLECULE TYPE: peptide

50

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

5 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

10 Ser His Leu Val Lys Cys Gly Glu Glu Arg Glu Gly Phe Cys Val Asn
1 5 10 15
Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
20 25 30
15 Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
35 40 45
Val Ile Ala Ser
20 50

(2) INFORMATION FOR SEQ ID NO:26:

(i) SEQUENCE CHARACTERISTICS:

25 (A) LENGTH: 49 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

30 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

35 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

40 Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
1 5 10 15
Gly Gly Glu Cys Tyr Arg Val Lys Thr Tyr Gly Tyr Leu Met Cys Lys
20 25 30
45 Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Met Ala
35 40 45
Ser
50

(2) INFORMATION FOR SEQ ID NO:27:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 49 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

5

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

10

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
 1 5 10 15

20

Gly Gly Glu Cys Tyr Arg Val Lys Thr Tyr Gly Tyr Leu Met Cys Lys
 20 25 30

Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Ile Ala
 35 40 45

25

Ser

(2) INFORMATION FOR SEQ ID NO:28:

30

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 52 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

35

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

40

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

45

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
 1 5 10 15

50

Gly Gly Glu Cys Tyr Arg Val Lys Thr Leu Ser Asn Pro Ser Arg Tyr
 20 25 30

Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr

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35

40

45

Val Ile Ala Ser
50

5

(2) INFORMATION FOR SEQ ID NO:29:

(i) SEQUENCE CHARACTERISTICS:

10

- (A) LENGTH: 52 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

15

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

20

- (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

25 Ser His Leu Val Lys Cys Gly Glu Glu Arg Glu Gly Phe Cys Val Asn
1 5 10 15

Gly Gly Glu Cys Tyr Arg Val Lys Thr Leu Ser Asn Pro Ser Arg Tyr
20 25 30

30

Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
35 40 45

35 Val Ile Ala Ser
50

(2) INFORMATION FOR SEQ ID NO:30:

(i) SEQUENCE CHARACTERISTICS:

40

- (A) LENGTH: 49 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: not relevant

45

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

50

- (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

Ser His Leu Val Lys Cys Gly Glu Glu Arg Glu Gly Phe Cys Val Asn
 1 5 10 15
 5 Gly Gly Glu Cys Phe Met Val Lys Asp Tyr Gly Tyr Leu Met Cys Lys
 20 25 30
 Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Ile Ala
 35 40 45
 10 Ser

(2) INFORMATION FOR SEQ ID NO:31:

15 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 49 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 20 (D) TOPOLOGY: not relevant
 (ii) MOLECULE TYPE: peptide
 (iii) HYPOTHETICAL: NO
 25 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:
 Ser His Leu Val Lys Cys Gly Glu Glu Arg Glu Gly Phe Cys Val Asn
 1 5 10 15
 35 Gly Gly Glu Cys Tyr Arg Val Lys Thr Tyr Gly Tyr Leu Met Cys Lys
 20 25 30
 Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Ile Ala
 40 35 40 45
 Ser

45 (2) INFORMATION FOR SEQ ID NO:32:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 49 amino acids
 (B) TYPE: amino acid
 50 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant
 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

10 Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
1 5 10 15
Gly Gly Glu Cys Tyr Arg Val Lys Thr Tyr Gly Tyr Leu Met Cys Lys
20 25 30
15 Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln His Tyr Val Ile Ala
35 40 45

Ser

20

(2) INFORMATION FOR SEQ ID NO:33:

(i) SEQUENCE CHARACTERISTICS:

25 (A) LENGTH: 49 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

30 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

35 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

40 Ser His Leu Val Lys Cys Gly Glu Glu Arg Glu Gly Phe Cys Val Asn
1 5 10 15
Gly Gly Glu Cys Tyr Arg Val Lys Thr Tyr Gly Tyr Leu Met Cys Lys
45 20 25 30
Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln His Tyr Val Ile Ala
35 40 45

50 Ser

(2) INFORMATION FOR SEQ ID NO:34:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 4 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 5 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

10 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

Gly Gly Gly Ser
 1

20 (2) INFORMATION FOR SEQ ID NO:35:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 7 amino acids
 25 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

30 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

40 Gly Gly Gly Ser Gly Gly
 1 5

(2) INFORMATION FOR SEQ ID NO:36:

45 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 50 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

10

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

Asp Asp Asp Asp Lys
1 5

(2) INFORMATION FOR SEQ ID NO:38:

(i) SEOUENCE CHARACTERISTICS:

(A) LENGTH: 5 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

Ser His Leu Val Lys
1 5

[illegible]

(2) INFORMATION FOR SEQ ID NO:39:

(i) SEQUENCE CHARACTERISTICS:

- 5 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

10

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

- 15 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

20 Trp Arg Leu Val Pro
 1 5

(2) INFORMATION FOR SEQ ID NO:40:

(i) SEQUENCE CHARACTERISTICS:

- 25 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

30

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

- 35 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

40 Trp Ser Leu Gln Pro
 1 5

(2) INFORMATION FOR SEQ ID NO:41:

(i) SEQUENCE CHARACTERISTICS:

- 50 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:

10

Trp Glu Leu Val Pro
1 5

(2) INFORMATION FOR SEQ ID NO:42:

15

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

20

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

25

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

Trp Ser Leu Val Lys
1 5

35

(2) INFORMATION FOR SEQ ID NO:43:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5 amino acids

(B) TYPE: amino acid

40

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

45

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:

Trp Ser Leu Ile Pro

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(2) INFORMATION FOR SEQ ID NO:44:

- 5 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant
- 10 (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- 15 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

Trp Arg Leu Val Ala
 1 5

25 (2) INFORMATION FOR SEQ ID NO:45:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids .
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant
- 30 (ii) MOLECULE TYPE: peptide
- 35 (iii) HYPOTHETICAL: NO
- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

Trp Ala Leu Val Pro
 1 5

45

(2) INFORMATION FOR SEQ ID NO:46:

- 50 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

5 (vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

Trp Ser Leu Gln Lys
1 5

15 (2) INFORMATION FOR SEQ ID NO:47:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
20 (C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

25 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

Trp Glu Leu Val Ala
35 1 5

(2) INFORMATION FOR SEQ ID NO:48:

(i) SEQUENCE CHARACTERISTICS:
40 (A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

45 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
50 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

Trp Ser Leu Glu Pro
1 5

5 (2) INFORMATION FOR SEQ ID NO:49:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 6 amino acids
(B) TYPE: amino acid
10 (C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

15 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

20

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

Ala Glu Lys Glu Lys Thr
25 1 5

(2) INFORMATION FOR SEQ ID NO:50:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 6 amino acids
(B) TYPE: amino acid
30 (C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

35 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

40 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

45

Gly Val Gly Arg Asp Gly
1 5

(2) INFORMATION FOR SEQ ID NO:51:

50

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 6 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

5 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

Gly Gly Glu Arg Glu Gly

15 1 5

(2) INFORMATION FOR SEQ ID NO:52:

(i) SEQUENCE CHARACTERISTICS:

20 (A) LENGTH: 6 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

25 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

30 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

35

Gly Glu Glu Arg Glu Gly

1 5

(2) INFORMATION FOR SEQ ID NO:53:

40

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

45 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

50

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:

5 Gly Trp Asp Arg Glu Gly
1 5

(2) INFORMATION FOR SEQ ID NO:54:

10 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 6 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

15 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
20 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:

25 Gly Val Gln Arg Glu Gly
1 5

(2) INFORMATION FOR SEQ ID NO:55:

30 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 6 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
35 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

40 (vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

Gly Glu Glu Arg Ala Gly
1 5
50

(2) INFORMATION FOR SEQ ID NO:56:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 6 amino acids

-127-

5

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(i) SEQUENCE CHARACTERISTICS:

15

(iii) HYPOTHETICAL: NO

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(i) SEQUENCE CHARACTERISTICS:

35

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(vi) ORIGINAL SOURCE:

45

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(2) INFORMATION FOR SEQ ID NO:61:

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5 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

10 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
(A) ORGANISM: Homo sapiens

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:

Val Asn Gly Gly Glu
1 5

20 (2) INFORMATION FOR SEQ ID NO:62:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

25 (ii) MOLECULE TYPE: peptide

30 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:

40 Val Asn Gly Gly Glu
1 5

(2) INFORMATION FOR SEQ ID NO:63:

45 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

50 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

10

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:64:

Val Asn Gly Gly Gln
1 5

(2) INFORMATION FOR SEQ ID NO:65:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:65:

-130-

(2) INFORMATION FOR SEQ ID NO:66:

- 5 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant
- 10 (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)
- 15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:

20 Tyr Lys Val Arg Ile
 1 5

(2) INFORMATION FOR SEQ ID NO:67:

- 25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant
- 30 (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- 35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:

Phe Arg Val Lys Thr
 1 5

45 (2) INFORMATION FOR SEQ ID NO:68:

- 50 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant
- (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:

10 Tyr Arg Val Lys Thr
1 5

(2) INFORMATION FOR SEQ ID NO:69:

15 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

20

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

25 (vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:

Tyr Met Ile Lys Tyr
1 5

35 (2) INFORMATION FOR SEQ ID NO:70:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5 amino acids

(B) TYPE: amino acid

40 (C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

45 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:

Tyr Met Val Lys Thr

1

5

(2) INFORMATION FOR SEQ ID NO:71:

- 5 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

10

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

15

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)

20

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:

Met Arg Val Arg Thr
 1 5

25

(2) INFORMATION FOR SEQ ID NO:72:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

30

(ii) MOLECULE TYPE: peptide

35

(iii) HYPOTHETICAL: NO

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Homo sapiens

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

Pro Ser Arg Tyr Leu
 1 5

45

(2) INFORMATION FOR SEQ ID NO:73:

- 50 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

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(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

5 (vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:

Thr Pro Tyr Leu Met
1 5

15 (2) INFORMATION FOR SEQ ID NO:74:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5 amino acids

(B) TYPE: amino acid

20 (C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

25 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

30

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

Tyr Gly Tyr Leu Met
1 5

35

(2) INFORMATION FOR SEQ ID NO:75:

(i) SEQUENCE CHARACTERISTICS:

40 (A) LENGTH: 5 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

45 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

50 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:

Tyr Arg Tyr Arg Met
1 5

5 (2) INFORMATION FOR SEQ ID NO:76:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

15 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

20

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:

25 Thr His Tyr Arg Gly
1 5

(2) INFORMATION FOR SEQ ID NO:77:

(i) SEQUENCE CHARACTERISTICS:

- 30 (A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

35 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

40 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:

45

Thr His Tyr Arg Met
1 5

(2) INFORMATION FOR SEQ ID NO:78:

50

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

5 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:78:

Tyr Lys Tyr Arg Met

15 1 5

(2) INFORMATION FOR SEQ ID NO:79:

(i) SEQUENCE CHARACTERISTICS:

20 (A) LENGTH: 5 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

25 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

30 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:79:

35

Thr Lys Tyr Arg Gly

1 5

(2) INFORMATION FOR SEQ ID NO:80:

40

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

45 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

50

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:

5 Tyr Lys Tyr Arg Leu
1 5

(2) INFORMATION FOR SEQ ID NO:81:

10 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 6 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

15 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

20 (vi) ORIGINAL SOURCE:
(A) ORGANISM: Homo sapiens

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:

Lys Cys Pro Asn Glu Phe
1 5

30 (2) INFORMATION FOR SEQ ID NO:82:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 6 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
35 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

40 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)

45

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:82:

Arg Cys Ser Leu Glu Phe
1 5

50

(2) INFORMATION FOR SEQ ID NO:83:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 6 amino acids

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(B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

5 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

10 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:83:

15

Arg Cys Ser Glu Glu Phe
 1 5

(2) INFORMATION FOR SEQ ID NO:84:

20

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

25

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

30

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

35

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:84:

Lys Cys Pro Lys Glu Met
 1 5

40

(2) INFORMATION FOR SEQ ID NO:85:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6 amino acids

45

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

50

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

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5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:85:

Arg Cys Thr Val Glu Tyr
1 5

10 (2) INFORMATION FOR SEQ ID NO:86:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 6 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
15 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

20 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:86:

Arg Cys Thr Val Glu Tyr
1 5

30 (2) INFORMATION FOR SEQ ID NO:87:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 6 amino acids
35 (B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

40 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:87:

50 Lys Cys Asn Ser Glu Phe
1 5

(2) INFORMATION FOR SEQ ID NO:88:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 6 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

5

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

10

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:88:

Arg Cys Lys Lys Glu Phe
 1 5

20

(2) INFORMATION FOR SEQ ID NO:89:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

25

(ii) MOLECULE TYPE: peptide

30

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: Homo sapiens

35

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:89:

40

Gln Asn Tyr Val Met
 1 5

(2) INFORMATION FOR SEQ ID NO:90:

45

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

50

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:90:

Gln Trp Tyr Val Ile
 1 5

10

(2) INFORMATION FOR SEQ ID NO:91:

(i) SEQUENCE CHARACTERISTICS:

15

(A) LENGTH: 5 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

20

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

25

(A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:91:

30

Gln His Tyr Val Ile
 1 5

(2) INFORMATION FOR SEQ ID NO:92:

35

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 52 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

40

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

45

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:92:

Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
 1 5 10 15

10082747.022202

Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
 20 25 30
 5 Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
 35 40 45
 Val Met Ala Ser
 50